

ABSTRACT OF THE DISCLOSURE

A granular speck pattern is generated by a reflecting laser beam as an object to be measured is irradiated with a laser beam. This granular speck pattern is directly picked up as image index by a line sensor. An A/D converter converts an analog signal supplied from the line sensor to a digital signal, a processing unit calculates the amount of movement of the object on the basis of movement of a pixel interval of the granular speck pattern. A display device displays the amount of movement calculated by said processing unit.